

Appl. No. : 10/630,635
Filed : July 29, 2003

REMARKS

The March 10, 2006 Final Office Action was based on pending Claims 2-7, 9-12, 14-17, 19-29, 31-35, 37 and 39-43. By this Response, Applicant is amending Claims 2, 10 and 23, and is cancelling Claims 17-22 without prejudice or disclaimer. New Claims 44-48 been added, and Claims 3-7, 9, 11, 12, 14-16, 24-29, 31-35, 37 and 39-43 remain as previously presented.

Thus, after entry of the foregoing amendments, Claims 2-7, 9-12, 14-16, 23-29, 31-35 and 37-48 are pending and are presented for further consideration. In view of the foregoing amendment and the remarks set forth below, Applicant respectfully submits that Claims 2-7, 9-12, 14-16, 23-29, 31-35 and 37-48 are in condition for allowance.

SUMMARY OF REJECTIONS

The March 10, 2006 Final Office Action rejected Claims 2-7, 9-12, 14-17, 19-21, 23-29, 31, 33-35, 37 and 39-42 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,333,276 to Solari ("Solari").

The Final Office Action also rejected Claims 22, 32 and 43 under 35 U.S.C. § 103(a) as being unpatentable over Solari in view of U.S. Patent No. 5,333,276 to Rabe et al. ("Rabe").

CANCELLED CLAIMS 17-22

Applicant respectfully traverses the rejections of Claims 17-22 and the Office Action's characterization of the cited references. However, in an effort to expedite prosecution of the present application, Applicant has cancelled Claims 17-22 without prejudice or disclaimer. Applicant reserves the right to pursue the subject matter of the cancelled claims in one or more continuing applications.

CLAIM REJECTIONS UNDER 35 U.S.C. § 102

The Final Office Action rejected Claims 2-7, 9-12, 14-16, 23-29, 31, 33-35, 37 and 39-42 as being anticipated by Solari.

Independent Claim 2

The Final Office Action rejected Claim 2 as being anticipated by Solari. For the reasons set forth below, Applicant respectfully disagrees.

Focusing on amended independent Claim 2, in one embodiment of Applicant's invention a method is disclosed for providing data transfers between a processor and a component that operate at different speeds. The method includes, among other things, buffering first and second addresses with first and second address buffers, respectively, and buffering first and second data values with first and second **bi-directional data buffers**, respectively.

The method further includes controlling the first address buffer and the first bi-directional data second buffer **as a matched pair** such that the first address held in the first address buffer corresponds to the first data value held in the first bi-directional data buffer. The method also includes controlling the order of data flow through the first and second bi-directional data buffers such that data flows between a processor and a component, wherein **controlling the order of the data flow through the first and second bi-directional data buffers is based on a priority status of the first and second data values**.

Solari does not disclose the method of amended independent Claim 2. Rather, Solari appears to disclose a method for reducing processor idle time during the transfer of data. In particular, the method of Solari uses a First In First Out (FIFO) queuing scheme that utilizes multiple **unidirectional** buffers for the transfer of data. For example, as shown by the FIFO queuing scheme depicted in Figure 2b of Solari, data may travel: (i) from a host bus (220) to a system bus (221) through unidirectional buffers/registers (227–229 and 231), and (ii) from the system bus (221) to the host bus (220) through the data buffer (230). Furthermore, the unidirectional priority data buffer (231) handles all priority writes from the host bus (220) to the system bus (221) (see, e.g., col. 8, lines 58–61).

Solari Does Not Disclose Buffering Data with Bi-directional Data Buffers

Each of the buffers used in the methods disclosed by Solari appears to be a unidirectional buffer. Although the **entire** queuing scheme of Solari is disclosed as

being bi-directional (see, e.g., col. 2, lines 54–59 cited by the Final Office Action), the Solari method uses several unidirectional buffers to achieve such bi-directional functionality. The method of Claim 2 of the subject application, however, recites the buffering of data using multiple bi-directional data buffers. Applicant's specification further points out using bi-directional data buffers, as opposed to multiple unidirectional buffers to achieve desired bi-directional functionality (as in Solari), requires less transistors to implement and can result in a less expensive and/or more efficient method.

Solari Does Not Disclose Controlling Data Flow through Bi-directional Data Buffers Based on Priority Status

Furthermore, Solari does not disclose "controlling the order of the bi-directional data flow through the first and second bi-directional data buffers . . . based on a priority status of the first and second data values," as recited in amended Claim 2. Rather the Solari method uses a single unidirectional buffer in a separate data path to handle priority writes (see, e.g., col. 8, lines 58–61; col. 11, lines, 20–28). The remaining data flow in Solari appears to be generally based on a first in-first out basis.

Summary

Because Solari does not disclose each and every element of amended independent Claim 2, Applicant respectfully submits that Claim 2 is not anticipated by Solari. Applicant, therefore, respectfully requests that the rejection under 35 U.S.C. § 102(b) be withdrawn.

Independent Claims 10, 23, 31 and 37

Independent Claims 10, 23, 31 and 37 are believed to be patentably distinguished over Solari for reasons similar to those set forth with respect to the patentability of independent Claim 2 and for the different aspects recited therein. Applicant, therefore, respectfully requests allowance of independent Claims 10, 23, 31 and 37.

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Dependent Claims 3-7, 9, 11, 12, 14-16, 24-29, 33-35 and 39-42

Claims 3-7 and 9 depend from independent Claim 2 and are believed to be patentably distinguished over Solari for the reasons set forth above with respect to Claim 2 and for the additional features recited therein.

Claims 11, 12 and 14-16 depend from independent Claim 10 and are believed to be patentably distinguished over Solari for the reasons set forth above with respect to Claim 10 and for the additional features recited therein.

Claims 24-29 depend from independent Claim 23 and are believed to be patentably distinguished over Solari for the reasons set forth above with respect to Claim 23 and for the additional features recited therein.

Claims 33-35 depend from independent Claim 31 and are believed to be patentably distinguished over Solari for the reasons set forth above with respect to Claim 31 and for the additional features recited therein.

Claims 39-42 depend from independent Claim 37 and are believed to be patentably distinguished over Solari for the reasons set forth above with respect to Claim 37 and for the additional features recited therein.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

The Final Office Action rejected Claims 32 and 43 as being unpatentable over Solari in view of Rabe.

Claim 32 depends from independent Claim 31 and is believed to be patentably distinguished over the cited art for the reasons set forth above with respect to Claim 31 and for the additional features recited therein. That is, neither Solari, nor Rabe, nor a combination thereof, teaches or suggests buffering data with bi-directional data buffers or controlling data flow through bi-directional data buffers based on priority status.

Claim 43 depends from independent Claim 23 and is believed to be patentably distinguished over the cited art for the reasons set forth above with respect to Claim 23 and for the additional features recited therein. That is, neither Solari, nor Rabe, nor a combination thereof, teaches or suggests buffering data with bi-directional data buffers or controlling data flow through bi-directional data buffers based on priority status.

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NEW CLAIMS 44-48

New Claims 44-48 have been added to more fully define Applicant's invention and are believed to be fully distinguished over the prior art of record.

REQUEST FOR TELEPHONE INTERVIEW

Pursuant to M.P.E.P. § 713.01, in order to expedite prosecution of this application, Applicant's undersigned attorney of record hereby formally requests a telephone interview with the Examiner as soon as the Examiner has considered the effect of the arguments presented above. Applicant's attorney can be reached at the general office number listed below.

CONCLUSION

In view of the foregoing, the present application is believed to be in condition for allowance. If further issues remain, the Examiner is cordially invited to contact the undersigned such that any remaining issues may be promptly resolved.

Moreover, by the foregoing amendments and remarks no admission is made that any of the above-cited references are properly combinable. Rather, Applicant submits that even if the references are combined, the references still do not teach or suggest the claimed invention.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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